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Sacred Springs: Teaching Children Local History via a Game Jam

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ABSTRACT

Game Jams are fun, participatory events aimed at stimulating creativity over a short intense period to produce a working prototype game. We report on a recent game jam, ‘*Sacred Spring*’, aimed at teaching children about the medical and scientific history of the Roman Baths in the city of Bath, UK. In this paper, we describe the event and its output, with some brief discussion on what we learned from organizing and running the game jam with a group of children aged 6-9 years old. Our aim is to discuss our game jam with the inclusive participatory design (PD) community, contextualizing novel game design and game play based learning strategies in the PD space and devising novel innovations to our PD structure for future workshops.

CCS CONCEPTS

• **Human-centered computing** → **Participatory design**; *Smartphones*; • **Information systems** → *Personalization*;

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RESEARCH EXPERTISE

We present our experience organizing a Game Jam (GJ) with young children to initiate a dialogue about their potential as a hands-on educational tool and as a participatory practice. GJs are powerful, participatory design activities for educating children where they learn through the process of creation, collaboratively designing new experiences and developing new skills [2, 4]. GJs can support creative thinking, collaboration, and active learning. While they are often organised for adults (or young adults), the past 5 years has seen the rise of GJs designed specifically for children. In 2015, the National Museums Scotland organized a GJ for young people¹, with the intention of promoting engagement with museum collections. In addition, the Global Game Jam (GGJ) launched its first official event for children only in 2018². We consider GJs an exciting format to educate children in a unique hands-on way. However, there is little information shared about how they are organized and what impact they may have on young children's learning of non-game topics such as history and culture. When we were organising 'Sacred Spring', a GJ to teach children about the history of healing waters in the city of Bath in the UK, we could not find official guidelines and only a very limited number of research outputs on the topic. Based on our experience with 'Sacred Spring', we discuss how to organise and evaluate GJ as a co-design tools for children.

ORGANISING A GJ FOR CHILDREN

Our format for 'Sacred Spring' was four 90 minute sessions in total, with 1 session per week (See Table 1). Our GJ had a thematic constraint, meaning the children were tasked with designing a game around a specific topic, in our case the Sacred Springs. In **Session 1** we provided a brief overview of the topic (e.g. the history of the Sacred Springs) already at the beginning of the first session, providing interesting facts and factoids on the theme to stimulate their curiosity and creativity. We used the first session to introduce children to some basic concepts of game design by inviting them to play some games while having a group discussion about the purpose of these games and their basic rules.

In **Session 2** children started developing their game. To begin, we asked the children to change some mechanics of an already published game. In this way, the children took their first steps as game designers but not starting from an empty sheet. We used the game Timeline³, asking the children to make the game more collaborative. This promoted further discussion on game mechanics and fostered confidence as the children witnessed their own derivative game come to life. Finally, we conducted a mindmapping session to help the children devise some basic game concepts. We then provided

¹<https://igdascotland.org/2015/09/national-museums-scotland-game-jam-project-opportunity/>

²<http://www.kidsgamejam.org/it/>

³<https://www.boardgamegeek.com/boardgame/128664/timeline>

Table 1: Breakdown of all 4 sessions of the Game Jam.

Session	Synopsis
1	Game Jam Overview Played Timeline Introduce concepts of game design
2	Timeline derivative Mindmapping Prototype
3	NFC Demonstration Sound recordings
4	Final Prototype Play test Closing Discussion

various paraphernalia to facilitate a prototyping task. The result was a maze style game with two opposing teams, ‘*The Humans*’ and ‘*The Monsters*’. ‘*The Humans*’ team took on an archaeologists role, seeking out the illusive spring waters, whereas the ‘*The Monsters*’ were tasked to stop them.

Session 3 can introduce some new tools the children could use to enhance their game. For example, we demonstrated the combination of NFC tags and smartphone apps to trigger media content e.g. text, sound and image, through simple tap actions. Once clear on the system of interaction, we encouraged the children to think about how NFC tools might make their game more compelling to other young people. Although this activity required a higher level of facilitator support than others, the children soon discovered they were able to record event sounds for their game. As sounds could be processed in several ways, the result included the rumbling utterances of monsters, the urgent sound of traps opening, and of course, the cascade of ‘sacred’ water onto rock.

The last session (**Session 4**) should allow children to finalise and test their game. In our case, the children spent about 30 minutes to finalise their game, adding further event sounds. Audio seemed to capture their imagination to a greater extent than text or image. The children also chose to name their game after the jam itself. Hence, we concluded the game jam with a full play test of ‘*Sacred Spring*’ and a closing discussion on its successes and limitations. An illustration of the final game is shown in Figure 1.

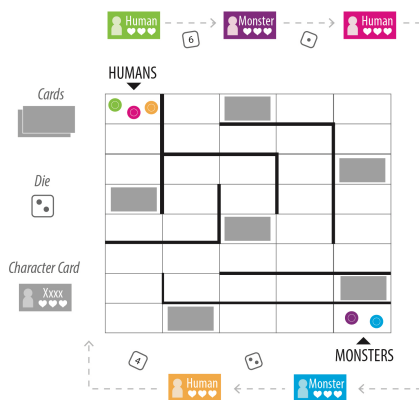


Figure 1: An illustration of Sacred Springs. Play begins with human team and alternates between teams. Shaded areas represent tiles that have an associated Action Card.

EVALUATING GJS FOR CHILDREN

We collected data via direct observation and a brief questionnaire administered after every session to gauge feedback from the children. Although the GJ was rated highly by the children, and feedback was overwhelmingly positive, we realize a questionnaire survey was not the most appropriate tool to evaluate the experience of the GJ as children may have difficulty verbalizing their thoughts [1]. While the GJ was sufficient to engage the children with the history of the sacred springs in the short term, they failed to retain this factual information across sessions. We suggest two ways to overcome this issue: 1) use the first 10-15 minutes of each session to review the topic, adding some new interesting facts to engage curiosity and 2) ask children to think about the topic at home, in particular how it could be included in a game. The first session should also introduce children to some basic concepts of game design, as they start to think about the kind of game they want to create. This can be easily done by inviting children to play one or two games and then ask them to discuss what is the purpose of these games and what are their basic rules. In the context of a growing literature base exploring games and GJs for learning [3], we want to engage with the ID&C and Inclusive PD communities to develop a workshop protocol incorporating the GJ scenario for young children with various physical and cognitive disabilities so that every child may take part in future game jams, engaging children with local heritage through the medium of play and the mechanics of game design.

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